

Application Serial No. 09/994,283
Reply to Office Action of March 13, 2006

PATENT
Docket No. CU-2732

REMARKS/ARGUMENTS

A petition for a one-month extension of time in which to respond is filed contemporaneously herewith. The fee for the one-month extension should be charged to the deposit account of Ladas and Parry LLP, i.e., deposit account number 12-0400.

As for the Office Action, claims 1-5 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 5,748,266 to Kodate. In light of the Examiner's findings, independent claims 1 and 3 have been amended as set forth above and are believed to avoid the Kodate reference and to be in condition for allowance.

Paraphrased, claims 1 and 3 claim that the supporting column has an exterior surface that is inclined. The outside surface of the supporting column is recited as being at a first angle with respect to the lower surface.

Similarly, the contact part recited in these claims is recited as having an interior surface that is inclined with respect to the lower surface at a second angle that is different than the first angle. As FIG. 6 shows, the angle between the contact part surface 53 and the lower substrate is less than the angle between the surface of the supporting column. Depending on which of the two substrates the angles are measured between, the angle of the contact part could be greater than or less than the angle of the supporting column, thus, claim 1 recites that two angles are different from each other.

No new matter has been added by the amendments to claims 1 and 3.

Directing the Examiner's attention to FIG. 8 of Kodate, Kodate shows that the inclination angles of the surfaces of the supporting column 78 and the surface of the hole 76 formed in the part of the gate insulating film 44 are identical. Similarly, the

Application Serial No. 09/994,283
Reply to Office Action of March 13, 2006

PATENT
Docket No. CU-2732

common electrode 30 that is described in Kodate as covering a portion of the pillar 78 conforms to the angle of the pillar exactly. Thus, in Kodate, the counterpart to the applicant's claimed "contact part" has an inclined surface or angle that exactly matches the inclination or slope of the supporting column recited in claims 1 and 3. These claims require a supporting column that has an outer surface that is at an angle that is *different* than an angle of a contact part. The claims therefore avoid Kodate.

In addition, the "contact part" recited in claim 1 and claim 3 is specifically recited in claims 1 and 3 as providing an electrical connection between the claimed supporting column and an electrode "common line" that is required to be located "at a peripheral region **outside of the active area**" where the pixels for the display are located.

(Emphasis added.)

Contrary to the invention claimed by the applicant, in Kodate, the "common electrode 30 covering the pillar 78" is described as being connected to and therefore electrically in common with a "storage capacitance line 28 that exists **everywhere in [the] pixel area**" (See Kodate col. 5, lines 1-5.) Thus, claim 1 of the applicant's invention further avoids Kodate by reciting that the claimed "contact part" provides an electrical pathway to a "common line" that is outside the pixel area.

Put another way, Kodate's counterpart to the applicant's claimed "contact part" and a common electrode 28 are located **in the active area**. In the applicant's invention, the "contact part" makes connection to a "common line" that is **outside the active area**.

As for the Applicant's admitted prior art shown in FIG. 2, this figure shows a frusto-conical supporting column the inclination angle of which matches the inclination

Application Serial No. 09/994,283
Reply to Office Action of March 13, 2006

PATENT
Docket No. CU-2732

angle of the structures adjacent thereto. Thus, the amendment to claims 1 and 2 avoids the Applicant's admitted prior art.

Since independent claims 1 and 3 are believed to be in condition for allowance because they avoid prior art cited by the Examiner. Claims that depend from there are therefore also believed to be in condition for allowance.

New claim 6 recites that the supporting column is frusto-conical with the outside surface of the frusto-conical supporting column being at a first angle with respect to the lower surface. The contact part is recited as being funnel-shaped with the interior concave surface being at a second angle different than the first angle.

New claim 6 is supported by the specification for the reasons set forth above.

Regarding the term "frusto-conical," the Examiner will note that the specification text and the claims themselves recite supporting columns. Merriam-Webster's Collegiate Dictionary defines "column" to mean "a supporting pillar, especially one consisting of a usually round shaft." (Emphasis added.) In addition, those of ordinary skill in the art of LCD-display devices would not construe the word "column" to refer to a pillar-like structure having a rectilinear cross section.

Since FIG. 6 clearly shows the sides of the supporting column 44 to be inclined, and since the supporting column has a circular cross section, the supporting column 44 shown in FIG. 6 is best described as frusto-conical. Thus, FIG. 6 supports the limitations added to the support column limitation.

As for the amendments to the claimed "contact part," specification text in paragraph [0028] equates the term "contact part" with the contact hole 53. FIG. 6 clearly shows the contact hole 53 as having an internal surface that is inclined. Since

Application Serial No. 09/994,283
Reply to Office Action of March 13, 2006

PATENT
Docket No. CU-2732

the contact hole 53 is described as accepting or mating with the support column, it therefore has a circular cross-section. The contact hole/contact part is thus funnel-shaped. The term "frusto-conical" means in the shape of a funnel.

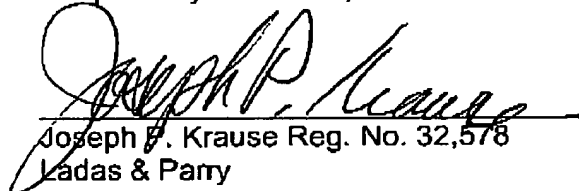
FIG. 6 clearly shows the inclined surface of the frusto-conical supporting column 44 to be at different angle than the interior, concave surface of the funnel-shaped contact part. Thus, FIG. 6 also supports the limitation that recites the first angle is different than the second.

For the reasons set forth above, the Applicants respectfully requests reconsideration of the claims as amended, including new claim 6.

No additional fee is believed required by the presentation of new claim 6 because the total number of independent claims is now three (3). In the event that the Examiner determines that an additional fee for new claim 6 is required, he is hereby authorized to charge any additional fee to the deposit account of Ladas and Parry LLP, 12-0400.

Respectfully submitted,

Dated: July 12, 2006


Joseph P. Krause Reg. No. 32,578
Ladas & Parry
224 South Michigan Avenue
Chicago, Illinois 60604
(312) 427-1300